SIEMENS

Press

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Hannover Messe 2018, Hall 9, Booth D35

Siemens industrial communication relies on Time-Sensitive Networking (TSN)

- **Robotic trade fair model demonstrates TSN communication between machine controls**
- **Standardized interfaces for guaranteed quality of service**
- **OPC UA PubSub with TSN: reliable communication even under high network load conditions**
- **Network components, communication processors, software and network management**

At Hannover Messe 2018, Siemens will be showcasing a trade fair model to demonstrate the advantages of Time-Sensitive Networking (TSN): TSN enables even more robust and reliable Ethernet communication between machines and plants even under high network load conditions. The model uses OPC UA PubSub (Publisher/Subscriber) together with TSN for machine-to-machine (M2M) communication. The reliability of TSN provides significant advantages for automation applications in industries such as automotive, mechanical engineering and food&beverage. The first Siemens products are expected to be available towards the end of 2018: network components, communication processors, software and network management with TSN functionality.

The trade fair model consists of two robots, each of which communicates over Profinet with a Simatic controller, and it demonstrates their synchronized motion. Synchronization between both controllers is ensured by the TSN network using a TSN-based OPC UA PubSub. The vital underlying element is the Publisher/Subscriber (PubSub) principle: A publisher such as a machine control sends data to the network, which is then available to all subscribers. The subscribers “decide” for themselves whether they require this information.

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Bandwidth reservation ensures data transmission within the TSN network in an exactly predictable form and irrespective of the network load.

The model applies the advantages of OPC UA with TSN: TSN combines the existing standards and optimizes Ethernet with an extended Quality of Service (QoS) mechanism, time synchronization, low transmission latencies and seamless redundancy. Users placing heavy demands on reliable communication will benefit particularly from the outstanding advantages of QoS prioritization: The reservation of a particular bandwidth and predictable latency periods ensures that each application is given the communication facilities it requires. The model also demonstrates the coexistence of TSN communication and standard Ethernet communication, whereby data is transmitted from the controller via a communication processor into MindSphere.
TSN has now reached the required degree of technical maturity (including standards), and the first components are available as a hardware basis. Siemens and other manufacturers are now able to extend their existing industrial networks to include new applications.
The next step involving Profinet based on TSN will be shown in a live demonstration to visitors at the PI booth (Profibus & Profinet International) in Hall 9, Booth D68 at Hannover Messe 2018.

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You will find this press release and a press picture at
http://www.siemens.com/press/PR2018040189PDEN

For further information please refer to www.siemens.com/tsn

Find further information about Siemens at the Hannover Messe 2018 at
www.siemens.com/press/hm18 and www.siemens.com/hannovermesse

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